IN THE ABSTRACT:

Please amend the abstract as follows:

A method and system ~~, computer program, and system~~ for intrinsic timescale decomposition, filtering, and automated analysis of signals of arbitrary origin or timescale including receiving an input signal ~~into a processor~~, determining a baseline segment and a monotonic residual segment with strictly negative minimum and strictly positive maximum ~~wherein said segments defined on a time interval comprising the interval~~ between two successive extrema of the input signal ~~and wherein the input signal on that interval is the sum of the baseline and residual segments~~, and producing a baseline output signal and a residual output signal ~~wherein the baseline signal is obtained from the baseline segment and the residual signal is obtained from the residual segment such that the sum of the baseline and residual signals is equal to the input signal thereby forming a decomposition of the input signal~~. The method and system also includes determining at least one instantaneous frequency estimate from a proper rotation signal ~~by inputing a proper rotation signal to a processor~~, determining a zero-crossing and a local extremum of the proper rotation signal, and applying interpolation ~~to the proper rotation signal between the zero-crossing and the local extremum~~ thereto to determine an instantaneous frequency estimate ~~of the proper rotation signal~~ thereof. The method and system further includes determining at least one instantaneous frequency estimate from a proper rotation signal ~~by inputing a proper rotation signal to a processor~~, extracting an amplitude-normalized half wave

~~from the proper rotation signal~~ therefrom and applying an arcsine function to the amplitude-normalized half wave to determine an instantaneous frequency estimate of the proper rotation signal.